

REMARKS

In response to the Office Action mailed July 9, 2003, Applicants have amended the claims and the specification and respectfully request reconsideration. Applicants note with appreciation that the finality of the previous Office Action was withdrawn. By this amendment, Applicants have cancelled claims 12, 48, 62 and 87, added claims 147-150, and amended claims 1-3, 5-8, 10, 13-15, 17, 24, 27, 30, 40, 49, 51, 53-55, 57, 59, 63-66, 68-72, 77-79, 83, 84, 86, 98, 121 and 134. Claims 3, 5-8, 10, 13, 14, 17, 24, 27, 40, 49, 51, 53-55, 57, 59, 63-66, 69-72, 77-79, 83, 84, 86, 121 and 134 have been amended solely to correct typographical errors and/or dependencies and for clarity, and not for any substantial reason relating to patentability. Claims 1-8, 10, 13-22, 24, 27-31, 35, 40-47, 49-61, 63-86 and 88-150 are now pending for examination, of which claims 1, 2, 15, 30, 68, 90 and 98 are independent claims. The application as presented is believed to be in condition for allowance.

A. Objections to the Specification

The Office Action objects to the specification because it contains, on page 1, line 23, a hyperlink reference to a website. Applicants have removed the reference and present the paragraph beginning on page 1, line 23 as amended on page 2 of this response. No new matter has been added by these amendments to the paragraph.

The Office Action also objects to the specification because the Office Action points out that the title of application serial number 08/932,190 is incorrect on page 1. Applicant has amended the paragraph beginning on page 1, line 5 to correct the title, as suggested in the Office Action. The amended paragraph is presented on page 2 of this response. No new matter has been added by this correction.

The application as amended is believed to be in condition for allowance.

B. Rejections under 35 U.S.C. § 102

1. Simon

The Office Action rejects claims 1, 2, 15-17, 19-22, 24, 29-31, 35, 68 and 98 under 35 U.S.C. § 102(b) as being anticipated by Simon (U.S. Patent No. 5,530,909). Applicants

have amended independent claims 1, 2, 15, 30 and 68 to further distinguish over the art of record and respectfully traverse the rejection.

As discussed in Applicants' previous responses, Simon discloses a method of transmitting information that includes equipping "aerodynes" (e.g. aircraft) with VHF transceivers that act as transmission relays, exchanging information with other aerodynes momentarily within their range in order to transmit the information between a source and a destination (col. 1, lines 50-67 and col. 2, lines 1-2). According to Simon, the distribution of the aerodynes will change from one instant to another in an almost random manner, seen from the system (col. 2, lines 43-47). Simon also discloses that the relays each implement a route selection algorithm to determine a best route for each message (col. 5, lines 8-14).

Simon fails to disclose several features recited in Applicants' claims. In particular, Applicants' claim 1, as amended, recites "re-transmitting the information signal with the first transmitter/receiver unit to a receiver located on the second passenger vehicle, and altering one of a direction of travel and velocity of the second passenger vehicle in response to information received by the receiver" (emphasis added). Nowhere does Simon disclose or suggest altering a direction of travel of the passenger vehicle in response to information received, as is recited in Applicants' claim 1, as amended. Simon discloses only that the aerodynes are relays that serve to relay the signal from a source station to a destination station. Simon makes no mention or suggestion of the aerodynes responding in any way to the signals other than to relay them on to the next aerodyne or the receiving station. Therefore, for at least this reasons, Applicants' claim 1, as amended, is not anticipated or rendered obvious by Simon and withdrawal of the rejection of claim 1 is respectfully requested.

Applicants' independent claim 2, as amended, recites "storing data when the second passenger vehicle becomes disconnected from the information network so that the information can be provided when the second passenger vehicle is reconnected to the information network." Simon discusses a relay system using momentary connections between aerodynes to transmit a signal between the aerodynes in order to convey the signal between a transmitting station and a receiving station. According to Simon, the aerodynes spend most of their time "disconnected" from the relay chain because the interconnections are only momentary. Simon is not concerned with providing information contained within

the relayed signal to the aerodynes, merely with conveying the signal between the end stations. Simon thus does not disclose storing data when one passenger vehicle becomes disconnected from the network so that the information can be provided to the second passenger vehicle when it is reconnected, as is recited in Applicants' claim 2, as amended. For at least this reason, Simon does not anticipate or render obvious Applicants' claim 2, as amended, and withdrawal of the rejection of claim 2 is respectfully requested.

With regard to the rejection of independent claim 15, Applicants' claim 15, as amended, recites "A system that provides information to and from a second passenger vehicle" including "a directional multibeam antenna, coupled to the first transmitter/receiver unit, that re-transmits the information signal in a plurality of directions, at least one of the plurality of directions being along the pathway." First, Applicants disagree with the assertion in the Office Action that Simon teaches that the method could be extended to use radar, which is a directional antenna." Rather, although Simon discloses the use of radar communications between the aircraft and the ground, Simon does not disclose the use of a directional antenna to transmit the signal from the first transmitter/receiver unit, along the pathway, as is recited in Applicants' claim 15. Furthermore, Simon does not make any mention of a multibeam antenna, nor of transmitting the signal along the pathway upon which the vehicle is located. In particular, Simon does not disclose or suggest "a directional multibeam antenna, coupled to the first transmitter/receiver unit, that re-transmits the information signal in a plurality of directions, at least one of the plurality of directions being along the pathway," as is recited in Applicants' claim 15, as amended. Therefore, for at least these reasons, Simon does not anticipate or render obvious Applicants' claim 15, as amended, and withdrawal of the rejection of claim 15 is respectfully requested.

Dependent claims 16, 17, 19-22, 24 and 29 depend from claim 15 and are therefore allowable for at least the same reasons as claim 15. Applicants' do not agree with the Examiner's interpretation of the dependent claims, nor that the basis for rejection of any of these claims is proper. In particular, Applicants' disagree with the statement in the Office Action, regarding claim 16, that "each aerodyne in Simon is inherently located in an area where there is an already existing communication channel because the transceiver communicates." Rather, the aerodynes in Simon communicate through the relay

communication protocol disclosed in Simon, i.e., the aerodynes create a communication channel between one another. Simon does not disclose that the aerodynes are located in an area where there is another, already existing communication channel, i.e., a communication channel existing prior to and separate from the communication channel established by the aerodynes themselves. Therefore, for this additional reason, Simon does not anticipate, or render obvious, Applicants' claim 16. Because each dependent claim is allowable for the same reasons as its base claim, Applicants' do not present specific arguments for each dependent claim separately, but reserve the right to do so in the future. Withdrawal of the rejection of dependent claims 16, 17, 19-22, 24 and 29 is respectfully requested.

Applicants' independent claim 30, as amended, recites "a method of providing information to passenger vehicles..., wherein the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, and wherein the step of re-transmitting the information signal with the first transmitter/receiver unit does not include re-transmitting the first portion of information." As discussed above, Simon is concerned with simply relaying a signal between a transmitting station and a receiving station, and makes absolutely no mention of any portion of the signal being intended for one of the passenger vehicles. According to Simon, the vehicles merely relay the signal so that it can reach its intended destination, namely the receiving station. In particular, Simon does not disclose that the information signal includes a first portion of information intended for the first passenger vehicle ... and that the step of re-transmitting the information signal with the first transmitter/receiver unit does not include re-transmitting the first portion of information, as is recited in Applicants' claim 30, as amended. Thus, for at least this reason, Simon does not anticipate or render obvious claim 30, as amended, and withdrawal of the rejection of claim 30 is respectfully requested.

Dependent claims 31 and 35 depend from claim 30 and are therefore allowable for at least the same reasons as claim 30. Applicants do not agree with the Examiner's interpretation of the dependent claims, nor that the basis for rejection of any of these claims is proper. In particular, Applicants disagree that Simon discloses (inherently or otherwise) that the aerodynes are located on pathways. However, because each dependent claim is allowable for the same reasons as its base claim, Applicants' do not present specific

arguments for each dependent claim separately, but reserve the right to do so in the future. Withdrawal of the rejection of dependent claims 31 and 35 is respectfully requested.

Applicants' independent claim 68, as amended recites "A system that provides information to and from passenger vehicles" including "a first transmitter/receiver unit located on a first passenger vehicle, the first transmitter/receiver unit being adapted to receive and re-transmit the information signal," wherein "the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, and wherein the information signal re-transmitted from the first passenger vehicle does not include the first portion of information." As discussed above with reference to claim 30, Simon discloses relaying the information signal between aerodynes to convey the information signal to its intended destination, namely the receiving station. Simon does not disclose that the information signal "includes a first portion intended for the first passenger vehicle," nor that "the information signal re-transmitted from the first passenger vehicle does not include the first portion of information." Rather, Simon discloses relaying the whole signal from one vehicle to another so that the whole signal can get to its destination. Therefore, for at least this reason, Simon does anticipate or render obvious Applicants' claim 68, as amended, and withdrawal of the rejection of claim 68 is respectfully requested.

Lastly, Applicants' independent claim 98 recites "A communication system for providing information from a source to a second passenger vehicle" that comprises "a first transmitter/receiver unit located on a first passenger vehicle, the first transmitter/receiver unit adapted to receive the information signal transmitted by the information source and to re-transmit the information signal," and "a first passenger interface adapted to present the information for access by a passenger associated with the first passenger vehicle." As discussed above, Simon discloses relaying the information signal between aerodynes to convey the information signal to the receiving station. Simon does not disclose that a vehicle is equipped with a first passenger interface adapted to present the information for access by a passenger associated with the first passenger vehicle, as is recited in Applicants' claim 98. In addition, Applicants' claim 98 recites "a second passenger interface, coupled to the receiver, that receives the information signal from the receiver and presents the information for access by a passenger associated with the second passenger

vehicle.” Simon also does not disclose or suggest this feature. Therefore, for at least these reasons, Simon does anticipate or render obvious Applicants’ claim 98 and withdrawal of the rejection of claim 98 is respectfully requested.

2. Wilson

The Office Action rejects claim 1 under 35 U.S.C. § 102(e) as being anticipated by Wilson (U.S. Patent No. 6,141,533. Applicants have amended claim 1 to further distinguish over the art of record and respectfully traverse this rejection.

Wilson discloses a mobile repeater 300 that can be used to extend the coverage of a fixed infrastructure 101 and supply signals, for example, telephone signals, to subscriber units. Wilson discloses that the mobile repeater includes a database that operates to process registration messages from a subscriber unit, such registration messages indicating the presence of the subscriber unit within the coverage area of the mobile repeater and the subscriber unit’s readiness to accept service from the mobile repeater (col. 7, lines 12-19). Thus, Wilson discloses methods of communication between the mobile repeater, the fixed infrastructure and the subscriber units. Wilson does not mention at all what the subscriber units may or may not do with the signals they receive from the mobile repeater. Furthermore, the mobile repeater itself acts as a relay, connecting subscriber units, and does not access the information signal itself other than to format it for re-transmission. In particular, Wilson does not disclose “altering one of a direction of travel and velocity of the second passenger vehicle in response to information received by the receiver,” as is recited in Applicants’ claim 1, as amended.

Therefore, for at least this reason, Wilson does not anticipate or render obvious Applicants’ claim 1, as amended, and withdrawal of the rejection of claim 1 is respectfully requested.

3. Larsen

The Office Action rejects claims 1, 2, 15, 30 and 68 under 35 U.S.C. § 102(e) as being anticipated by Larsen (U.S. Patent No. 6,473,617). Applicants have amended claims 1, 2, 15, 30 and 68 to further distinguish over the art of record and respectfully traverse this rejection.

Larsen discloses a cellular network comprising a plurality of mobile stations and a plurality of base stations that define cells of non-overlapping zones of coverage (col. 3, lines 34-45). According to Larsen, the mobile stations transmit data messages opportunistically between themselves and other stations in order to relay messages from an originating station to a receiving station and effectively “fill in” gaps in coverage between adjacent cells (col. 4, lines 1-9). Larsen further discloses a frequency/time sharing arrangement that allows the stations to communicate without interfering with one another.

Larsen fails to disclose or suggest several features recited in Applicants’ claims. As discussed above, Applicants’ claim 1, as amended, recites “altering one of a direction of travel and velocity of the second passenger vehicle in response to information received by the receiver” (emphasis added). Although Larsen discloses that the mobile stations may move, Larsen does not make any mention of “altering one of a direction of travel and velocity of the second passenger vehicle in response to information received by the receiver,” as is recited in Applicants’ claim 1, as amended. Therefore, for at least this reason, Larsen does not anticipate, nor render obvious, Applicants’ claim 1, and withdrawal of the rejection of claim 1 is respectfully requested.

Applicants’ claim 2, as amended, recites “storing data when the second passenger vehicle becomes disconnected from the information network so that the information can be provided when the second passenger vehicle is reconnected to the information network.” By contrast, Larsen discloses that the base stations may maintain list of mobile stations with which they are in contact (col. 8, lines 22-64) and may adjust transmit power or transmit to different mobile stations to ensure that the data messages reach their intended receiving station. Larsen makes absolutely no mention of storing data “when the second passenger vehicle becomes disconnected from the information network” so that “the data can be provided when the second passenger vehicle is reconnected to the information network,” as is recited in Applicants’ claim 2. Therefore, for at least these reasons, Larsen does not anticipate, nor render obvious, Applicants’ claim 2, and withdrawal of the rejection of claim 2 is respectfully requested.

With regard to the rejection of claim 15, Applicants’ claim 15, as amended, recites “A system that provides information to and from a second passenger vehicle” including “a directional multibeam antenna, coupled to the first transmitter/receiver unit, that re-

transmits the information signal in a plurality of directions, at least one of the plurality of directions being along the pathway.” First, Applicants disagree with the statement in the Office Action that “all antennas are inherently directional antennas.” A “directional antenna” is a term of art that is used in the industry to refer to an antenna “that focuses signals so that they are received and transmitted in a particular pattern, with a particularly strong signal in one direction.” An omni-directional antenna is not a “directional antenna” as understood by those of ordinary skill in the art. Larsen does not discuss the type of antennas used by the mobile stations, although it may be implied from the figures, depicting circular areas of coverage, that they are omni-directional antennas. However, whether they are or not, Larsen does not disclose that any mobile station has a “directional multibeam antenna” that re-transmits the signal “in a plurality of directions, at least one of the plurality of directions being along the pathway,” as is recited in Applicants’ claim 15, as amended. Therefore, for at least these reasons, Larsen does not anticipate, nor render obvious, Applicants’ claim 15, and withdrawal of the rejection of claim 15 is respectfully requested.

Applicants’ independent claim 30, as amended, recites “a method of providing information to passenger vehicles..., wherein the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, and wherein the step of re-transmitting the information signal with the first transmitter/receiver unit does not include re-transmitting the first portion of information.” Larsen, like Simon, discloses a relaying system wherein the mobile stations relay data messages between themselves and the base stations in order to pass the data messages from an originating station to a receiving station. Larsen does not make any mention of the relaying stations retaining a portion of the data messages. In particular, Larsen does not disclose or suggest “wherein the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, and wherein the step of re-transmitting the information signal with the first transmitter/receiver unit does not include re-transmitting the first portion of information,” as is recited in Applicants’ claim 30, as amended. Therefore, for at least these reasons, Larsen does not anticipate, nor render obvious, Applicants’ claim 30, and withdrawal of the rejection of claim 30 is respectfully requested.

Applicants' independent claim 68, as amended recites "A system that provides information to and from passenger vehicles" including "a first transmitter/receiver unit located on a first passenger vehicle, the first transmitter/receiver unit being adapted to receive and re-transmit the information signal," wherein "the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, and wherein the information signal re-transmitted from the first passenger vehicle does not include the first portion of information." As discussed above in reference to claim 30, Larsen does not disclose or suggest that the information signal comprises two portions, nor that the mobile, relaying stations do not re-transmit a portion of the information signal. Therefore, for at least these reasons, Larsen does not anticipate, nor render obvious, Applicants' claim 68, and withdrawal of the rejection of claim 68 is respectfully requested.

4. Robert

The Office Action rejects claims 1-8, 10, 12-14, 15-22, 24, 27-31, 35 and 40-146 under 35 U.S.C. § 102(e) as being anticipated by Robert (U.S. Patent No. 6,104,712). Applicants have amended independent claims 1, 2, 15, 30 and 68 to further distinguish over the art of record and respectfully traverse this rejection.

Robert discloses an amorphous communication network having a plurality of migratory access nodes (or terminal devices) that are carried along with individuals. According to Robert, each wireless node has a user interface and a local identification number (ID) and each wireless node captures a transmitted message when the destination address in the message matches its local address, or otherwise forwards the message towards a destination if the address does not match (abstract). Robert also describes various communications protocols and methods by which the nodes may communicate with one another. In one example, Robert discloses that the nodes may report their positions to a regional database which maintains current node position mapping data.

Applicants' claim 1, as amended, recites "altering one of a direction of travel and velocity of the second passenger vehicle in response to information received by the receiver" (emphasis added). As discussed above, Robert discloses a communication network and communication methods for relaying messages between nodes to reach a

destination. Robert does not disclose what the destination node does once it receives its message. In particular, Robert does not disclose “altering a direction of travel of the least one passenger vehicle in response to the information received,” as is recited in Applicants’ claim 1, as amended. Therefore, for at least this reason, Robert does not anticipate, or render obvious, Applicants’ claim 1, as amended, and withdrawal of the rejection of claim 1 is respectfully requested.

Applicants’ claim 2, as amended, recites “storing data when the second passenger vehicle becomes disconnected from the information network so that the information can be provided when the second passenger vehicle is reconnected to the information network.” Robert, like Larsen and Simon, discloses an “ad hoc” relaying system wherein mobile units are used as relays to transmit messages from one mobile unit to another until the message reaches its intended destination. It is of no concern to Robert that one mobile unit may become “disconnected” from the network, because in Robert’s system, any available mobile unit can be used to relay the messages. Robert does not disclose “storing data when the second passenger vehicle becomes disconnected from the information network so that the information can be provided when the second passenger vehicle is reconnected to the information network,” as is recited in Applicants’ claim 2, as amended. Therefore, for at least this reason, Robert does not anticipate, or render obvious, Applicants’ claim 2 and withdrawal of the rejection of claim 2 is respectfully requested.

Claim 62 has been canceled and thus the rejection is moot with respect to this claim. However, independent claim 15 has been amended to now recite the limitation previously recited in claim 62. Therefore, the rejection of claim 62 will be addressed as it now applies to claim 15.

Applicants’ independent claim 15, as amended, recites “A system that provides information to and from a second passenger vehicle” including “a directional multibeam antenna, coupled to the first transmitter/receiver unit, that re-transmits the information signal in a plurality of directions, at least one of the plurality of directions being along the pathway.” Although Robert discloses that the nodes may include either an omni-directional or uni-directional (directional) antenna, or both, Robert does not disclose that the nodes include a directional multi-beam antenna, as is recited in Applicants’ claim 15. Nor does Robert disclose that the multi-beam antenna transmits the signal “in a plurality of

directions, at least one of the plurality of directions being along the pathway” on which the passenger vehicle is located, as also recited in Applicants’ claim 15, as amended.

Therefore, for at least these reasons, Robert does not anticipate, nor render obvious, Applicants’ claim 15 and withdrawal of the rejection of claim 15 is respectfully requested.

Claims 48 and 87 have been canceled and thus the rejection is moot with respect to these claims. However, independent claims 30 and 68 have been amended to now recite the limitations previously recited in claims 48 and 87, respectively. Therefore, the rejection of claims 48 and 87 will be addressed as it now applies to claims 30 and 68.

Applicants’ independent claim 30, as amended, recites “a method of providing information to passenger vehicles..., wherein the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, and wherein the step of re-transmitting the information signal with the first transmitter/receiver unit does not include re-transmitting the first portion of information.” Similarly, Applicants’ independent claim 68, as amended, recites “A system that provides information to and from passenger vehicles,” wherein “the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, and wherein the information signal re-transmitted from the first passenger vehicle does not include the first portion of information.”

Contrary to the assertion in the Office Action, Robert does not disclose that “the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle.” Nor does Robert disclose that the signal re-transmitted by the node “does not include the first portion of information.” Robert discloses that the node captures a transmitted message when the destination address in the message matches its local address, or otherwise forwards the message towards a destination if the address does not match. Robert makes absolutely no mention of the message containing two portions for two different nodes, nor that the first node does not re-transmit (relay) a first portion of the message that was intended for it. Robert discloses whole messages being either retained or relayed by the nodes. Therefore, for at least these reasons, Robert does not anticipate, or render obvious,

Applicants' claims 30 and 68 and withdrawal of the rejection of claims 30 and 68 is respectfully requested.

Applicants' independent claim 90, recites "receiving the information signal with a first transmitter/receiver unit located on a first passenger vehicle, providing the information for access by a passenger associated with the first passenger vehicle" and "re-transmitting the information signal with the first transmitter/receiver unit." These steps together are not disclosed by Robert. Robert discloses that the wireless node includes a user interface. However, Robert also discloses that the node captures a transmitted message when the destination address in the message matches its local address, or otherwise forwards the message towards a destination if the address does not match. Therefore, if the address does not match, the node does not present the message using the user interface, but rather forwards the message. Only if the address of the message matches the node's local address does the node capture the message. Thus, the same node (i.e., the first transmitter/receiver unit) will not both provide "the information for access by a passenger associated with the first passenger vehicle" and "re-transmit the information signal with the first transmitter/receiver unit," as is claimed in Applicants' claim 90. Therefore, for at least these reasons, Robert does not anticipate, or render obvious, Applicants' claim 90 and withdrawal of the rejection of claim 90 is respectfully requested.

Applicants' independent claim 98 recites "a first transmitter/receiver unit located on a first passenger vehicle, that receives the information signal transmitted by the source and re-transmits the information signal, a first passenger interface, coupled to the first transmitter/receiver unit, that receives the information signal from the first transmitter/receiver unit and presents the information for access by a passenger associated with the first passenger vehicle, a receiver located on the second passenger vehicle, the receiver being adapted to receive the information signal, a second passenger interface, coupled to the receiver, that receives the information signal from the receiver and presents the information for access by a passenger associated with the second passenger vehicle." As discussed above, Robert discloses that the node captures a transmitted message when the destination address in the message matches its local address, or otherwise forwards the message towards a destination if the address does not match. Therefore, if the address does not match, the node does not present the message using the user interface, but rather

forwards the message. Thus, the same node (i.e., the first transmitter/receiver unit) will not both provide “the information for access by a passenger associated with the first passenger vehicle” and “re-transmit the information signal with the first transmitter/receiver unit,” as is claimed in Applicants’ claim 98. Therefore, Robert does not anticipate, or render obvious, Applicants’ claim 98, and withdrawal of the rejection is respectfully requested.

Each of dependent claims 3-8, 10, 13, 14, 16-22, 24, 27-29, 31, 35, 40-47, 49-61, 63-67, 69-88, 89, 91-97 and 99-146 depends, either directly or indirectly from one of the independent claims 1, 2, 15, 30, 68, 90 and 98 discussed above. Therefore, each of these dependent claims is allowable for at least the same reasons as discussed for its respective base claims. Accordingly, Applicants’ do not at this time argue the merits of each dependent claim individually. However, Applicants do not agree that the basis for rejection of any of the dependent claims is proper. In particular, the Office Action merely states that Robert “discloses the limitations recited in each of the dependent claims.” Applicants disagree and respectfully request that, should the Examiner wish to retain the rejection of any of the dependent claims, the Examiner specifically point out where in Robert the Examiner believes the limitation recited in that dependent claim is shown. Withdrawal of the rejection of claims 3-8, 10, 13, 14, 16-22, 24, 27-29, 31, 35, 40-47, 49-61, 63-67, 69-88, 89, 91-97 and 99-146 is respectfully requested.

C. Rejections Under 35 U.S.C. § 103

1. Steele

The Office Action rejects claims 1-8, 10-12, 13, 14-22, 24, 29-31, 40-47, 50, 52, 57, 58 and 60 under 35 U.S.C. § 103(a) as being unpatentable over Steele. Applicants respectfully traverse this rejection.

Steele discloses a radio communication network comprising a plurality of relatively closely spaced-apart mobile stations each comprising a transmitter and a receiver and being arranged to act as controlled repeaters to relay incoming traffic signals to nearby mobile stations. Steele discloses that a central control station is able to communicate with the mobile stations and stores data map providing information on the physical layout and local transmission characteristics of the region in which the mobile stations are located. Steele

further discloses various communication protocols by which the mobile stations can communicate with each other and with the base stations.

With regard to the statement in the Office Action that “the antennas used in Steele are inherently directional antennas because all antenna whether omni-directional, unidirectional or multi-directional, are directional,” Applicants respectfully disagree. As stated above, the term “directional antenna” is a term of art, understood by those of skill in the art to mean an antenna that “focuses signals so that they come and go in a particular pattern, with a particularly strong signal in one direction.” Omni-directional antenna are understood in the art not to be directional antennas because they define a beam pattern that is substantially uniform in all directions, not particularly strong in one direction.

The Office Action also states that “it would have been obvious to modify the invention of Steele so that the mobile stations are on passenger vehicles because such an arrangement would enable the users of the mobile stations to perform tasks other than communication, such as traveling from one point to another.” Applicants respectfully disagree. Steele relates particularly to cellular communications systems, and therefore in at least one embodiment, the mobile stations are cellular telephones. Steele makes absolutely no mention of the mobile stations being any kind of vehicle. The only suggestion that the mobile stations should be passenger vehicles is found in Applicants’ own claims, and there is thus no proper motivation for modifying Steele found in the prior art of record.

Applicants’ independent claim 1, as amended, recites “recites “altering one of a direction of travel and velocity of the second passenger vehicle in response to information received by the receiver.” This limitation is also recited in dependent claim 53, which previously depended from claim 1 and is not rejected as unpatentable over Steele. Therefore, because claim 1, as amended, recites a limitation from a non-rejected claim, claim 1 is also patentable over Steele. However, because the Office Action states, with respect to claim 46, that it “would have been obvious to modify the invention of Steele so that the direction of travel of the second passenger vehicle is altered in response to the information received because such an arrangement would enable hidden mobile stations to navigate their way until they are no longer hidden,” Applicants respectfully traverse this statement as it now applies to claim 1.

According to Steele, hidden mobile stations are “located in locations partially enclosed by objects having relatively poor signal characteristics, for example, located in an underground car park or in the centre of a large building” (page 18). Steele does not disclose or suggest that it may be desirable for the hidden mobile stations to “navigate their way until they are no longer hidden.” In fact, Steele refers to “hidden” mobile stations as those mobile stations that are in areas where they cannot communicate directly with a particular base station. That is, the mobile stations are hidden only with respect to the particular base station being discussed. There is absolutely no suggestion that the location of the hidden mobile stations is in any way undesirable to the mobile stations. Particularly because the hidden mobile stations may be hidden from necessity or desire, Steele discloses a method and system for communication with the hidden mobile stations while they are hidden from the base station. Further, Steele does not mention at all what the mobile stations may do in response to messages they receive. Nowhere in Steele is there any teaching or suggestion to “alter one of a direction of travel and velocity of the second passenger vehicle in response to information received by the receiver,” as is recited in Applicants’ claim 1, as amended.

Referring to the MPEP, in § 2141, it is stated that in consideration and determination of obviousness, the Examiner must follow the factual inquiries as set out in Graham v. John Deere, namely: (A) Determining the scope and contents of the prior art; (B) Ascertaining the differences between the prior art and the claims in issue; (C) Resolving the level of ordinary skill in the pertinent art; and (D) Evaluating evidence of secondary considerations. Furthermore, as also stated in the MPEP § 2141, when applying § 103, the following tenets must be followed:

- A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination or modification;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined (emphasis added).

The Office Action does not point to anywhere in Steele, or in the art of record, where there is a suggestion or motivation to modify Steele so as to enable the “hidden” mobile stations to “navigate their way until they are no longer hidden.” As discussed above, Steele in fact teaches away from the proposed modification because Steele specifically discloses a method for communicating with the “hidden” mobile stations while they are hidden. Without an objective suggestion in the prior art, not based on Applicants’ claims or specification, the Office Action cannot make out a prima facie case of obviousness. Therefore, for at least these reasons, Applicants’ claim 1 is patentable over Steele, and withdrawal of the rejection of claim 1 is respectfully requested.

Applicants’ independent claim 2, as amended, recites “storing data when the second passenger vehicle becomes disconnected from the information network so that the information can be provided when the second passenger vehicle is reconnected to the information network.” This limitation is also recited in dependent claim 121 which previously depended, indirectly, from claim 2 and is not rejected as unpatentable over Steele. Therefore, because claim 2, as amended, recites a limitation from a non-rejected claim, claim 2 is also patentable over Steele and withdrawal of the rejection of claim 2 is respectfully requested.

As discussed above, Applicants’ independent claim 15, as amended, recites “A system that provides information to and from a second passenger vehicle” including “a directional multibeam antenna, coupled to the first transmitter/receiver unit, that re-transmits the information signal in a plurality of directions, at least one of the plurality of directions being along the pathway.” This limitation was previously recited in dependent claim 62, which previously depended from claim 15 and was not rejected as unpatentable over Steele. Therefore, because claim 15, as amended, recites a limitation from a non-rejected claim, claim 15 is also patentable over Steele. In addition, as discussed above, a “directional multibeam” antenna is different than an omnidirectional antenna, and Steele does not inherently disclose a directional multibeam antenna, as is recited in Applicants’ claim 15, as amended. Accordingly, withdrawal of the rejection of claim 15 is respectfully requested.

Applicants’ independent claim 30, as amended, recites “a method of providing information to passenger vehicles..., wherein the information signal includes a first portion

of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, and wherein the step of re-transmitting the information signal with the first transmitter/receiver unit does not include re-transmitting the first portion of information.” Claim 30, as amended, recites the limitation that was previously recited in (now canceled) claim 48 which depended from claim 30. Claim 48 was not rejected as being unpatentable over Steele. Therefore, because claim 30, as amended, recites a limitation from a non-rejected claim, claim 30 is now also patentable over Steele and withdrawal of the rejection of claim 30 is respectfully requested.

Dependent claim 12 has been canceled and thus the rejection is moot with respect to claim 12.

Each of dependent claims 3-8, 10, 13, 14, 16-22, 24, 29, 31, 40-47, 50, 52, 57, 58 and 60 depends from one of the independent claims discussed above and is therefore allowable for at least the same reasons as discussed for its respective base claim. Accordingly, withdrawal of the rejection of dependent claims 3-8, 10, 13, 14, 16-22, 24, 29, 31, 40-47, 50, 52, 57, 58 and 60 is respectfully requested.

2. Simon

The Office Action rejects claims 3-8, 10, 12-14, 40-67, 69-97 and 99-146 under 35 U.S.C. § 103(a) as being unpatentable over Simon. Applicants respectfully traverse this rejection.

Applicants' independent claim 1 has been amended to recite the limitation recited in claim 53 which depended from claim 1 (claim 53 has been amended to now depend from claim 2). Therefore, the rejection of claim 53 will be addressed as it now pertains to claim 1. The Office Action states that it “would have been obvious...to modify Simon so that it includes a step of altering a direction of travel of the second passenger vehicle in response to information received by the receiver because such an arrangement would allow the passenger vehicles to benefit from the invention.” This reasoning is insufficient to support a prima facie case of obviousness. As discussed above, it is well established law that in order to make out a prima facie case of obviousness, the Examiner must point to some objective teaching in the prior art of record that would lead one of ordinary skill in the art to modify the disclosure of the reference(s). The Office Action points to nowhere in the

references of record to support the assertion that it would have been obvious to modify Simon. Simon does not disclose or suggest that the aerodynes do anything with the signals or in response to the signals, other than to relay them so as to convey the signals from the originating station to a destination point. The whole focus of Simon is a simply relaying system. The only suggestion to modify Simon so as to include a step of “altering a direction of travel of the second passenger vehicle in response to the information received” is found in Applicants’ own claim and specification. Therefore, the Office Action has not set forth a prima facie case of obviousness, and withdrawal of the rejection of claim 1 is respectfully requested.

Independent claim 2 has been amended to recite the limitation recited in claim 121 which depended from claim 2 (claim 121 has been amended to now depend from claim 1). Therefore, the rejection of claim 121 will be addressed as it now pertains to claim 2. The Office Action states that “it would have been obvious to modify Simon so that it includes a step of storing data when the second passenger vehicle becomes disconnected from the information network so that the information can be provided when the second passenger vehicle is reconnected to the information network because such an arrangement would help prevent the loss of information that might otherwise occur from the disconnection.” Applicants respectfully disagree. Simon discloses an “ad hoc” relaying system, i.e., that the aerodynes “exchange information with other aerodynes momentarily within their range in order to transmit the information between a source and a destination” (col. 1, lines 50-67 and col. 2, lines 1-2). Thus, the aerodynes are not connected other than momentarily when one aerodyne relays the signal to another. Therefore, there is no risk of information loss when one aerodyne “becomes disconnected” because signals will simply not be sent to that one aerodyne. Simon discloses that the signals can be related to any available, appropriate aerodyne. Additionally, Simon does not disclose or suggest that the aerodynes do anything with the signal other than relay it toward the destination. Accordingly, there is no suggestion present in the art of record to modify Simon to “store data when the second passenger vehicle becomes disconnected so that the information can be provided when the second passenger vehicle is reconnected” because any “disconnected” aerodyne has no use for the signal which will be relayed by another, available aerodyne. The only motivation to modify Simon is found in Applicants’ own claim and specification. Therefore, because the

Office Action fails to point to any objective suggestion present in the reference to modify Simon, the Office Action fails to make out a prima facie case of obviousness. Accordingly, withdrawal of the rejection is respectfully requested.

Claim 48, which previously depended from claim 30, has been canceled and thus the rejection is moot with respect to claim 48. However, claim 30 has been amended to now recite the limitation previously recited in claim 48. Similarly, the claim 87 has been canceled and independent claim 68 has been amended to now recite the limitation previously recited in claim 87. Therefore, the rejection of claims 48 and 87 will be addressed as it now pertains to claims 30 and 68.

The Office Action states that “it would have been obvious to modify Simon so that the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, wherein re-transmitting the information signal does not include re-transmitting the first portion of information because such an arrangement would enable the passenger vehicles to merely act as routers, each portion of information could comprise the address of the respective passenger vehicle.” Applicants respectfully disagree. This statement in the Office Action is pure speculation, and the Office Action points to nowhere in the art of record to support the proposed modification. As discussed above, Simon discloses relaying the signal from one aerodyne to another. Simon does not disclose or suggest that any portion of the signal is intended for any of the aerodynes. As discussed above, in applying § 103, the Examiner must consider the reference as a whole and the reference must suggest the desirability and thus the obviousness of making the combination or modification. Simon does not suggest the desirability of making the modification, namely that the information signal includes a first portion of information intended for the first passenger vehicle and a second portion of information intended for the second passenger vehicle, wherein re-transmitting the information signal does not include re-transmitting the first portion of information, because Simon does not disclose or suggest providing the signal to the aerodynes at all. Simon only discloses using the aerodynes as relays.

Each of dependent claims 3-8, 10, 12-14, 40-47, 49-61, 63-67, 69-89, 99-120, 122-137 and 143-146 depends either directly or indirectly from one the independent claims 1, 2,

15, 30, 68 and 98 discussed above and is therefore allowable for at least the same reasons as discussed for its respective base claim.

3. Combinations of References

The Office Action rejects claims 18 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Simon in view of Rootsey (U.S. Patent No. 5,995,804). Applicants respectfully traverse this rejection.

Claims 18 and 28 depend from independent claim 15 and are therefore allowable for at least the same reasons as discussed for claim 15. Therefore, Applicants do not set forth specific arguments relating to the patentability of claims 18 and 28 individually, but reserve the right to do so in the future. However, Applicants do not agree that the suggested combination of Simon and Rootsey is proper, nor that the basis for rejection of claims 18 and 28 is proper. In particular, Applicants do not agree that the Examiner's reasoning for asserting the obviousness of claims 18 and 28 is sound. Withdrawal of the rejection of claims 18 and 28 is respectfully requested.

The Office Action also rejects claim 27 under 35 U.S.C. § 103(a) as being unpatentable over Simon in view of Drummer (U.S. Patent No. 5,880,693). Applicants respectfully traverse this rejection.

Claim 27 depends from claim 15 and is therefore allowable for at least the same reasons as claim 15. Therefore Applicants do not set forth specific arguments relating to the patentability of claim 27 individually, but reserve the right to do so in the future. However, Applicants do not agree that the suggested combination of Simon and Drummer is proper, nor that the basis for rejection of claim 27 is proper. In particular, Applicants do not agree that the Examiner's reasoning for asserting the obviousness of claims 27 is sound. Withdrawal of the rejection of claim 27 is respectfully requested.

D. Conclusion

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone

number listed below. If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762, Ref. No. A0602/7002.

Respectfully submitted,

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